U.S. Department of the Interior
Bureau of Land Management
White River Field Office
73544 Hwy 64
Meeker, CO 81641

ENVIRONMENTAL ASSESSMENT

NUMBER: CO-110-2004-164-EA

CASEFILE/PROJECT NUMBER COC 060758 Well# 399-14-1
COC 060755 Well# 299-23-1, Well # 299-23-2
COC 060757 Well# 299-27-1, Well# 299-27-2

PROJECT NAME: 5 APD's

LEGAL DESCRIPTION: T3S-R99W, sec. 14 (399-14-1)
T2S-R99W, sec. 23 (299-23-1 and 299-23-2)
T2S-R99W, sec. 27 (299-27-1 and 299-27-2)

APPLICANT: Riata Energy, Inc.

ISSUES AND CONCERNS (optional):

DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES:

Proposed Action: Applicant is proposing to drill five wells including pads, access roads and pipelines. Total disturbance for the proposed action would be approximately 8.26 acres.

For well #399-14-1; the proposed pad size is 250'X250' (1.43 acres), proposed new construction for an access route is 300'X50' with an 18" culvert coming off of the existing road (.35 acres). Total disturbance would be approximately 1.78 acres.

For well #299-27-1 the proposed pad size is 250'X250' (1.43 acres), proposed new construction for an access route is 50'X50' (.05 acres). Total disturbance would approximately 1.48 acres. A 4 inch pipeline is proposed along the access road to a tie point. Approximate length will be 200'X30' (.14 acres). Applicant is proposing the pipeline to be laid on the surface where possible and trenched where necessary for road crossings. If needed a 3 inch condensate line will be laid in the same trench.

The location of the well # 299-27-1 location was moved substantially (about 500' southeast) during an on-site inspection at the behest of the BLM wildlife biologist. This move placed the

pad immediately adjacent to the county road and minimized further impingement on burned acreage that will eventually assume a sagebrush character suitable for sage grouse occupation.

For well #299-27-2 the proposed pad size is 250'X250' (1.43 acres), proposed new construction for an access route is 528'X50' (.61 acres). Total disturbance would be approximately 2.04 acres. A 4 inch pipeline is proposed along the access road to a tie point. Approximate length will be 500'X30' (.35 acres). Applicant is proposing the pipeline to be laid on the surface where possible and trenched where necessary for road crossings. If needed a 3 inch condensate line will be laid in the same trench.

For well #299-23-1 the proposed pad size is 250'X250' (1.43 acres), proposed new construction for an access route is 50'X50' (.05 acres). Total disturbance would be approximately 1.48 acres. A 4 inch pipeline is proposed cross country to a tie point. Approximate length will be 200'X30' (.14 acres). Applicant is proposing the pipeline to be laid on the surface where possible and trenched where necessary for road crossings. If needed a 3 inch condensate line will be laid in the same trench.

For well #299-23-2 the proposed pad size is 250'X250' (1.43 acres), proposed new construction for an access route is 528'X50' (.61 acres). Total disturbance would be approximately 1.48 acres. A 4 inch pipeline is proposed along the access road to a tie point. Approximate length will be 2500'X30' (1.72 acres). Applicant is proposing the pipeline to be laid on the surface where possible and trenched where necessary for road crossings. If needed a 3 inch condensate line will be laid in the same trench.

No Action Alternative: The APDs would be denied. No access roads, well pads, or pipeline would be constructed. There would be no additional environmental impacts.

ALTERNATIVES CONSIDERED BUT NOT CARRIED FORWARD: None

NEED FOR THE ACTION: To respond to the request by applicant to exercise lease rights and develop hydrocarbon reserves.

PLAN CONFORMANCE REVIEW: The Proposed Action is subject to and has been reviewed for conformance with the following plan (43 CFR 1610.5, BLM 1617.3):

Name of Plan: White River Record of Decision and Approved Resource Management Plan (ROD/RMP).

Date Approved: July 1, 1997

Decision Number/Page: Page 2-5

Decision Language: "Make federal oil and gas resources available for leasing and development in a manner that provides reasonable protection for other resource values."

AFFECTED ENVIRONMENT / ENVIRONMENTAL CONSEQUENCES / MITIGATION MEASURES:

STANDARDS FOR PUBLIC LAND HEALTH: In January 1997, Colorado Bureau of Land Management (BLM) approved the Standards for Public Land Health. These standards cover upland soils, riparian systems, plant and animal communities, threatened and endangered species, and water quality. Standards describe conditions needed to sustain public land health and relate to all uses of the public lands. Because a standard exists for these five categories, a finding must be made for each of them in an environmental analysis. These findings are located in specific elements listed below:

CRITICAL ELEMENTS

AIR QUALITY

Affected Environment: There are no special air quality designations or non-attainment areas in the vicinity of the proposed action.

Environmental Consequences of the Proposed Action: The proposed action would result in short term, local impacts to air quality during and after construction, due to dust being blown into the air. However, airborne particulate matter should not exceed Colorado air quality standards on an hourly or daily basis.

Environmental Consequences of the No Action Alternative: Impacts are not anticipated from the no-action alternative.

Mitigation: Applicant will spread water on road surfaces to control fugitive dust during construction and continue on an as needed basis for the life of the wells.

CULTURAL RESOURCES

Affected Environment: Well# 399-14-1, Well# 299-23-1, Well# 299-27-2, Well# 299-23-2 (pad only) and Well# 299-27-1;have been inventoried at the Class III (100% pedestrian) level (Conner and Davenport 2004, Compliance Dated 8/26/2004) with no new cultural resources identified. The proposed pipeline to well #299-23-2 has not been inventoried to date.

Environmental Consequences of the Proposed Action: Well# 399-14-1, Well# 299-23-1, Well# 299-27-2, Well# 299-23-2 (pad only) and Well# 299-27-1; construction of the proposed action will not impact any known cultural resources. For Well #299-23-2 which has only had the pad and new access road inventoried and will not impact any known cultural resources. The 2500'X50' pipeline has not been inventoried and will require one before proceeding on that portion of the proposed action.

Environmental Consequences of the No Action Alternative: There would be no new action under the No Action Alternative.

Mitigation: 1. The operator is responsible for informing all persons who are associated with the project operations that they will be subject to prosecution for knowingly disturbing historic or archaeological sites, or for collecting artifacts. If historic or archaeological materials are uncovered during any project or construction activities, the operator is to immediately stop activities in the immediate area of the find that might further disturb such materials, and immediately contact the authorized officer (AO). Within five working days the AO will inform the operator as to:

- whether the materials appear eligible for the National Register of Historic Places
- the mitigation measures the operator will likely have to undertake before the site can be used (assuming in situ preservation is not necessary)
- a timeframe for the AO to complete an expedited review under 36 CFR 800-11 to confirm, through the State Historic Preservation Officer, that the findings of the AO are correct and that mitigation is appropriate.

If the operator wishes, at any time, to relocate activities to avoid the expense of mitigation and/or the delays associated with this process, the AO will assume responsibility for whatever recordation and stabilization of the exposed materials may be required. Otherwise, the operator will be responsible for mitigation cost. The AO will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the AO that the required mitigation has been completed, the operator will then be allowed to resume construction.

2. Pursuant to 43 CFR 10.4(g) the holder of this authorization must notify the AO, by telephone, with written confirmation, immediately upon the discovery of human remains, funerary items, sacred objects, or objects of cultural patrimony. Further, pursuant to 43 CFR 10.4(c) and (d), you must stop activities in the vicinity of the discovery and protect it for 30 days or until notified to proceed by the authorized officer.

3. Well 299-23-2 well tie pipeline: the well tie pipeline shall not be constructed until completion of an acceptable archaeological inventory. Upon receipt of an approved report the applicant shall be given written notice to proceed with the well tie construction.

INVASIVE, NON-NATIVE SPECIES

Affected Environment: The areas of the proposed action are currently free of noxious weeds. The invasive alien *Bromus tectorum* (cheat grass) is present and well adapted to the entire project area.

Environmental Consequences of the Proposed Action: The principal negative impact over the long term would occur if invasive species or noxious weeds are allowed to establish and proliferate on the disturbed areas resulting from pad and access road construction.

Environmental Consequences of the No Action Alternative: There will be no change from the present situation.

Mitigation: Promptly recontour and revegetate all disturbed areas using Native Seed Mix #2, substituting needle and thread for green needlegrass in this seed mixture. Eradicate all noxious and invasive species which occur on site using materials and methods approved in advance by the Authorized Officer.

MIGRATORY BIRDS

Affected Environment: These 5 wells involve big sagebrush communities that are in early successional state following fire (399-14-1, 299-27-1) or in advanced successional state that include considerable 30-50 year old pinyon and juniper regeneration. A number of migratory birds fulfill nesting functions in these predominantly big sagebrush habitats during the months of May, June, and July. Species associated with these shrublands are typical and widely represented in the Resource Area and region. As pinyon-juniper begins to establish on these sites, the abundance of sagebrush obligates declines and more generalized woodland species (e.g., chipping sparrow) begin to appear in small numbers. Those bird populations associated with this Resource Area's sagebrush communities identified as having higher conservation interest by the Rocky Mountain Bird Observatory/Partners in Flight program (i.e., Brewer's sparrow, green-tailed towhee) are abundant and well distributed in extensive suitable habitats throughout the Resource Area.

Environmental Consequences of the Proposed Action: Construction and drilling associated with these pads is scheduled to commence in November 2004 and be completed by May 2005. Based on this schedule, there would be no potential to disrupt the nesting activities of migratory birds.

In the event development activity extends into the May-June breeding season, levels of nest disturbance associated with these pads would be discountable. The conditions associated with each of these pads tend to reduce the utility of the sites for nesting and the probability of their sustaining strong nest densities. Four of the pads are sited within 300' of maintained county roads (i.e., nest density tending to decline within 300' of well-traveled roads); of these, 1 involves grassland habitat (i.e., low nest potential and no potential for birds of higher conservation interest) and 2 pinyon-juniper encroached sagebrush habitat (i.e., reduced abundance of sagebrush obligates) . The remaining pad also involves pinyon-juniper encroached sagebrush. In summary, it would be unlikely that nesting activity of more than 2-4 pair of higher interest birds would be affected by drilling and completion activities that may extend into the nesting season.

Environmental Consequences of the No Action Alternative: There would be no action authorized that would have potential to disrupt the breeding activities of migratory birds. Alternate actions would have similar or more substantive consequences as those discussed under the proposed action.

Mitigation: None

THREATENED, ENDANGERED, AND SENSITIVE ANIMAL SPECIES (includes a finding on Standard 4)

Affected Environment: No animals listed, proposed, or candidate to the Endangered Species Act inhabit or derive important benefit from the project area. Within the last 20 years, Dry Ryan Ridge (the section 23 and 27 wells) supported a small number of greater sage-grouse, a BLM-sensitive species and one currently under review for listing. At that time, suitable habitat was confined to a large contiguous sagebrush park in the west half of section 27. This park, at the lower elevational range of occupied habitat, may have served in a limited capacity as nest habitat and as general summer and fall/winter range. This sagebrush stand burned about 20 years ago and since the burn, and likely due to strong herbaceous expression, there has been very limited sagebrush regeneration (trace canopies) and no known use by sage grouse within at least several miles of the proposed 299-27-1 location (located on the lower, northern edge of the park). The 299-27-2 location is associated with the historic extent of sagebrush within this park, but this northeast extremity is dominated in character by older pinyon-juniper regeneration and has likely had no utility for grouse for at least 50 years.

Environmental Consequences of the Proposed Action: Construction of the 299-27-1 location would have no immediate influence on sagebrush habitats or sage grouse. However, over the productive life of the well (20 years), it is likely that sagebrush canopies will redevelop sufficiently to support sage grouse. As a means of minimizing the long term influence on habitat utility (e.g., human and vehicle activity associated with well facilities and roads) and reduce impingement on future habitat extent and continuity (reducing road density and confining activity to established corridors), the 299-27-1 location was relocated about 500' to the southeast during an on-site inspection with the proponent. This move placed the pad immediately adjacent to the county road—a long established form of disturbance. Total surface occupation would amount to about 1.5 acres with no substantive access requirements. Interim reclamation measures would be used in an attempt to regain functional rangeland and habitat values prior to well abandonment (see mitigation section).

Environmental Consequences of the No Action Alternative: There would be no action authorized that could influence potential occupation of the Dry Ryan burn by greater sage-grouse.

Mitigation: Use interim reclamation on this pad such that all available topsoil material would be used to recontour cut and fill slopes (maintaining the viability of the soils for final reclamation) and all disturbed areas would be seeded.

Locate production facilities to maximize the extent of surface disturbance available for effective reclamation over the productive life of the well.

Finding on the Public Land Health Standard for Threatened & Endangered species: The former sagebrush park encompassing the 299-27-1 location is currently incapable of supporting

sage grouse. However, because this park is undergoing a natural and necessary ecological process of rejuvenation by fire (e.g., understory development, improved sagebrush conformation for cover), the area meets the Public Land Health Standard for special status species. By relocating this pad to an existing corridor of disturbance, both the expansion of disruptive influences and the extent of long term surface occupation were minimized such that the long term integrity of the park for future sage grouse occupation is maintained as much a practicable. This disturbance represents a small area that fails to meet the Health Standard for sage grouse, but its relocation helps to maintain the long term integrity and utility of the park for future sage grouse use—an effort that aids in continued meeting of the Health Standard on a landscape scale. Failure to authorize this action would have no further influence on the Health Standard for special status species.

WASTES, HAZARDOUS OR SOLID

Affected Environment: There are no known hazardous or other solid wastes on the subject lands. No hazardous materials are known to have been used, stored or disposed of at these sites.

*Environmental Consequences of the Proposed Action***:** No listed or extremely hazardous materials in excess of threshold quantities are proposed for use in this project. While commercial preparations of fuels and lubricants proposed for use may contain some hazardous constituents, they would be stored, used and transported in a manner consistent with applicable laws, and the generation of hazardous wastes would not be anticipated.

*Environmental Consequences of the No Action Alternative***:** No hazardous or other solid wastes would be generated under the no-action alternative.

Mitigation: The operator shall be required to collect and properly dispose of any solid wastes generated by this project.

WATER QUALITY, SURFACE AND GROUND (includes a finding on Standard 5)

Affected Environment: The table below correlates the proposed well locations to the specific drainages they are in. Stakes Springs is a tributary to Yellow Creek while Swizer Gulch is tributary to Black Sulphur Creek and Piceance Creek. Both Yellow Creek and Piceance Creek are tributary to the White River.

Well Number	Drainage Name
299-27-1	Stakes Spring
299-27-2	Stakes Spring
299-23-1	Stakes Spring
299-23-2	Stakes Spring
399-14-1	Swizer Gulch

Historic hydrologic data is available for Stake Springs. USGS had a gaging station at the mouth of Stake Springs from 1976-1977. The table below reflects the data collected during this time

frame. Typical of ephemeral drainages, Stake Springs flows as a result of winter snowmelt and late summer thunderstorms. For the two years of record, only one of the spring runoff periods recorded flow while the recorded peak flow was a late summer rainstorm. The range of discharge was from dry on most days to a peak flow of 245 cubic foot per second (cfs) on September 11, 1977. Water quality for the periods of flow is very good showing low conductivities and representative pH values. These samples are well with in the standards set by the State. Stake Springs is identified in segment 13b, which is the mainstem of Yellow Creek, including all tributaries from the source to the confluence with the White River.

USGS Gaging Station 09306230 Stake Springs Gulch near Rangely, CO						
Sample Date & Time		Temperature, water, deg C	Daily Streamflow (ft^3/s)	Instantaneous discharge cfs	Specific Conductance, 25 degC	pH, std units
2/12/1976	16:10	1	0.04	0.03	180	
2/13/1976	14:00	3	0.01	0.02	280	8.4
	15:40	1	0.34	0.14	650	
9/11/1977				245		
9/12/1977	11:45			0.01	602	

The State has designated this segment as "Use Protected". They further classified this stream segment as Warm Aquatic Life 2, Recreation 2, and Agriculture. The State has further defined water quality parameters with table values. These standards reflect the ambient water quality and define maximum allowable concentrations for the various water quality parameters. The anti-degradation rule does not apply to segments that are considered to be use protected. For these drainages, on the parameters listed in the table apply.

Hydrologic data is not available for Swizer Gulch. Typically these upper tributaries are ephemeral streams flowing in direct response to snow melt and rain storms. Water quality of precipitation is well within the standards set by the State. Swizer is identified in segment 20, which is mainstem of Black Sulphur and Hunter Creeks from their sources to their confluences with Piceance Creek. The State has classified this stream segment as Aquatic Life Cold 1, Recreation 2, and Agriculture. The State has further defined water quality parameters with table values. These standards reflect the ambient water quality and define maximum allowable concentrations for the various water quality parameters. The anti-degradation rule applies to this segment meaning no further water quality degradation is allowable that would interfere with or become harmful to the designated uses.

Environmental Consequences of the Proposed Action: Impacts to water quality from development of these wells would be similar to other surface disturbing activities. Some of these impacts would be exposure of soil surface to wind and water erosion, reduced water quality due to erosion of sediment and salt off roads, drill pads, and pipeline rights of ways, and piping or rill erosion where well pads and roads are exposed to climatic elements.

Depleting the vegetation cover needed to protect watersheds from raindrop impact and runoff could cause short-term erosion problems and increased sedimentation to the White River watershed until successful mitigation has been implemented and proven to be successful. The

magnitude of these impacts is dependent on the amount of surface disturbance and climatic conditions during the time the soils are exposed to the elements. These impacts would be short term until revegetation has occurred.

Mitigation such as revegetation of the unused portion of the well pad as soon as possible, placing gravel on areas that would not be revegetated or placing check dams to control runoff from the access road and pad would help to minimize these impacts.

Environmental Consequences of the No Action Alternative: Impacts are not anticipated from the no-action alternative.

Mitigation: Oil and Gas operations are considered to be a light industrial activity by the Colorado Department of Public Health and Environment. As an industrial discharger, the applicant is required to obtain a permit authorizing the discharge of stormwater from these sites. The permit requires development of a stormwater management plan showing how BMPs would be used to control runoff and sediment transport.

When preparing the site, all suitable topsoil should be stripped from the surface of the location and stockpiled for reclamation for use, once the drilling is completed.

All sediment control structures or disposal pits will be designed to contain a 100-year, 6-hour storm event. Storage volumes within these structures will have a design life of 25 years.

All activity shall cease when soils or road surfaces become saturated to a depth of three inches unless otherwise approved by the Authorized Officer.

Provide vegetation or artificial stabilization of cut and fill slopes in the design process. Avoid establishment of vegetation where it inhibits drainage from the road surface or where it restricts safety or maintenance.

Eliminate undesirable berms that retard normal surface runoff.

Finding on the Public Land Health Standard for water quality: Water quality in the stream segments within the area of the proposed action meet the criteria established in the standard. With successful reclamation, the proposed action would not change this status.

WETLANDS AND RIPARIAN ZONES (includes a finding on Standard 2)

Affected Environment: The nearest riparian vegetation is borne by Yellow Creek, about 5 miles north of the Dry Ryan Ridge wells, and perennial flows in Black Sulphur Creek, about 3 miles downstream of the 399-14-1 well.

Environmental Consequences of the Proposed Action: Because of lengthy downstream separation (i.e., 3-5 miles) via ephemeral channels, there is no reasonable probability of riparian conditions or function being potentially influenced by this action.

Environmental Consequences of the No Action Alternative: There would be no action authorized that would have any conceivable influence on downstream riparian communities.

Mitigation: None

Finding on the Public Land Health Standard for riparian systems: The proposed and no-action alternatives would have no conceivable influence on the condition or function of downstream channel or riparian systems. These actions are even more distantly removed from the nearest BLM-administered lands (i.e., an additional 4 miles in Yellow Creek and over 20 miles in the case of Piceance Creek via Black Sulphur) and they would have no potential to influence the status of land health standards as applied to those stream reaches.

CRITICAL ELEMENTS NOT PRESENT OR NOT AFFECTED:

No ACEC's, flood plains, prime and unique farmlands, Wilderness, or Wild and Scenic Rivers, threatened, endangered or sensitive plants exist within the area affected by the proposed action. For threatened, endangered and sensitive plant species Public Land Health Standard is not applicable since neither the proposed nor the no-action alternative would have any influence on populations of, or habitats potentially occupied by, special status plants. There are also no Native American religious or environmental justice concerns associated with the proposed action.

NON-CRITICAL ELEMENTS

The following elements **must** be addressed due to the involvement of Standards for Public Land Health:

SOILS (includes a finding on Standard 1)

Affected Environment: Baseline soils data have been collected for Rio Blanco County by the NRCS and are published in an order III Soil Survey. This survey is available for review from the White River Field Office. The table below identifies soil characteristics for the soils encountered from the proposed action.

Proposed Action	Soil Number	Soil Name	Slope	Range site	Salinity	Run Off	Erosion Potential
Well 299-27-1 Well 299-23-1	33	Forelle loam	3-8%	Rolling Loam	<2	Medium	Moderate
Well 399-14-1	36	Glendive fine sandy loam		Foothills Swale	2-4	Slow	Slight
Well 299-23-2	64	Piceance fine sandy loam	5-15%	Rolling Loam	<2	Medium	Moderate to high

Proposed Action	Soil Number	Soil Name	Slope	Range site	Salinity	Run Off	Erosion Potential
Well 299-27-2	70	Redcreek-Rentsac complex	5-30%	PJ woodlands/PJ woodlands	<2	Very high	Moderate to high

Revegetation limitations for these soil types include alkalinity, an arid climate, and droughty soil condition. There are no special designations for the areas of the proposed action.

Environmental Consequences of the Proposed Action: General impacts associated with oil and gas and road development include but are not limited to, loss of topsoil, soil compaction and possible increase in sediment loads to the White River. The primary surface-disturbing impact would be a potential increase in sediment transport from runoff events after the protective vegetative cover has been removed.

For the proposed culvert at well location 399-14-1, BLM would prefer to have a low water crossing if permissible then to use the proposed culvert. Flashy storm events have a tendency to clog culverts with brush and sediment; diverting runoff around the culvert and requiring continual maintenance to keep them functioning.

Environmental Consequences of the No Action Alternative: New impacts would not occur as a result of the no-action alternative.

Mitigation: For Well # 399-14-1, BLM would prefer to have a low water crossing. If Riata chooses to place a culvert in the access road the following mitigation will apply:

- Culverts will be designed and constructed according to the standards provided in BLM Manual 9112. The design, review and evaluation must be accomplished under the direct supervision of a registered professional engineer.

- Approaches to the culvert will be stabilized with fabric /gravel/water bars as needed to reduce erosion.

Use Native Seed mix # 2 from Table B-2 in the White River ROD/RMP for the range sites identified.

Table B-2 Native Seed Mix		
Native seed Mix #2	Western wheatgrass (Rosanna) Indian ricegrass (Nezpar) Bluebunch wheatgrass (Whitmar) Thickspike wheatgrass (Critana) Needle and thread (Stipa comata) Globemallow	2 1 2 2 1 0.5

In addition, the following conditions of approval from Appendix B, White River ROD/RMP must be applied:

Water bars or dikes shall be constructed on all of the rights-of-way, and across the full width of the disturbed area, as directed by the authorized officer.

Slopes within the disturbed area shall be stabilized by non-vegetative practices designed to hold the soil in place and minimize erosion. Vegetative cover shall be reestablished to increase infiltration and provide additional protection from erosion.

When erosion is anticipated, sediment barriers shall be constructed to slow runoff, allow deposition of sediment, and prevent it from leaving the site. In addition, straining or filtration mechanisms may also contribute to sediment removal from runoff

All disturbed areas including the cut and fill slopes not necessary for production will be promptly recontoured and revegetated using the recommended seed mix in the Vegetation section below.

Finding on the Public Land Health Standard for upland soils: Site specifically, these soils would probably not meet the Land Health Standards because of the presence of some indicators (i.e. rill erosion, and actively-eroding gullies), on a temporary basis. This condition would exist until successful reclamation has occurred. Based on the overall landscape, the Land Health Standards would not be affected.

VEGETATION (includes a finding on Standard 3)

Affected Environment: Location 399-14-1 is located in Swizer Gulch in a burned area formerly dominated by basin big sagebrush. This area is presently dominated by herbaceous species, principally slender and western wheatgrass. *Bromus tectorum* (cheatgrass) is also present on the site. Location 299-27-1 has been relocated adjacent to the County road within the Dry Ryan burn. Vegetation in this burn is dominated by needle and thread and western wheatgrass and green rabbitbrush. Locations 299-23-1, 23-2, and 27-2 are located in Wyoming big sagebrush dominated parks surrounded by pinyon-juniper woodlands.

Environmental Consequences of the Proposed Action: The principal impact to vegetation will be complete removal of vegetation on the well sites and the earthen disturbance associated with it. In terms of plant community composition, structure and function, the principal negative impact over the long term would occur if invasive species or noxious weeds are allowed to establish and proliferate on the disturbed areas resulting from pad and access road construction.

Environmental Consequences of the No Action Alternative: There would be no change from the present situation.

Mitigation: Promptly recontour and revegetate all disturbed areas using Native Seed Mix #2, substituting needle and thread for green needlegrass in this seed mixture. Revegetation shall include all cut and fill slopes associated with access road and pad construction. Eradicate all noxious and invasive species which occur on site using materials and methods approved in advance by the Authorized Officer.

Finding on the Public Land Health Standard for plant and animal communities (partial, see also Wildlife, Aquatic and Wildlife, Terrestrial)*:* Plant communities in the project area currently meet the Standard and would be expected to continue to meet the Standard over the short term if this project is implemented.

WILDLIFE, AQUATIC (includes a finding on Standard 3)

Affected Environment: The nearest systems supporting aquatic wildlife communities are private reaches of Black Sulphur Creek (about 3 channel miles below 399-14-1) and Yellow Creek (about 5 miles below the 4 pads on Dry Ryan Ridge).

Environmental Consequences of the Proposed Action: Because of lengthy downstream separation (i.e., 3-5 miles) via ephemeral channels, there is no reasonable probability of aquatic habitats being potentially influenced by this action.

Environmental Consequences of the No Action Alternative: There would be no action authorized that would have potential to influence downstream aquatic habitats. Alternate locations would likely have impacts similar to those associated with the proposed action.

Mitigation: None.

Finding on the Public Land Health Standard for plant and animal communities (partial, see also Vegetation and Wildlife, Terrestrial): The proposed and no-action alternatives would have no conceivable influence on the condition or function of downstream aquatic habitats (privately owned). These actions are even more distantly removed from the nearest BLM-administered lands (i.e., an additional 4 miles in Yellow Creek and over 20 miles in the case of Piceance Creek via Black Sulphur) and they would have no potential to influence the status of land health standards as applied to those stream reaches.

WILDLIFE, TERRESTRIAL (includes a finding on Standard 3)

Affected Environment: The proposed wells are encompassed by higher elevation winter ranges of deer and within the general winter distribution of elk. These ranges are most consistently occupied by the largest number of animals from October through January and again in April and early May. All well locations are located either adjacent (4 pads) or in close proximity (27-2 within 400') to maintained county roads and involve historic sagebrush parks that are decadent and becoming increasingly encroached by pinyon-juniper regeneration (27-2, 299-23-1, 23-2) or sagebrush types that have recently burned (399-14-1, 299-27-1). None of the locations involves woodland habitats that are suitable for woodland raptor nesting.

Non-game wildlife using this area are typical and widely distributed in extensive like habitats across the Resource Area and northwest Colorado; there are no narrowly endemic or highly specialized species known to inhabit those lands potentially influenced by this action.

Environmental Consequences of the Proposed Action: Access requirements for these pads would be negligible and would not add substantively to the density of local road networks (i.e., relating to habitat disuse adjacent to disturbance and elevated energetic demands associated with harassment). Although animal displacement is likely to occur in the vicinity of active drilling and completion operations (e.g., 30-50 acres at any given time), the affects would be minor since the project area involves more extensive general winter range extent (i.e., fewer animals affected as winter progressed) and the majority of activity would be narrowly confined to a single major access corridor. Longer term occupation of these lands and the reduction in the herbaceous and woody forage base for big game (about 7 acres) would be discountable. Herbaceous forage availability would be largely regained in the short term with integration of interim reclamation (see T&E species section). Similarly, the loss of forage and cover for non-game animals would be negligible at the local scale.

Environmental Consequences of the No Action Alternative: There would be no action authorized that would influence local habitat character or animal populations.

Mitigation: The 299-23-1 pad was originally sited in the center of a sagebrush basin and subsequently moved during the on-site inspection to the margin of the park (into pinyon-juniper regeneration). Similarly, the 299-27-1 location was moved from the interior of the Ryan Ridge burn to a location adjacent to the county road. Both moves situated well pads and drilling activity into a pre-existing disturbance corridor, helping to consolidate disruptive influences, minimize long term surface occupation, and maintain the integrity of larger blocks of contiguous sagebrush habitats.

Finding on the Public Land Health Standard for plant and animal communities (partial, see also Vegetation and Wildlife, Aquatic): The project area meets the public land health standards for terrestrial animal communities. As conditioned (see mitigation), the proposed action and no-action alternatives would have negligible short and long term influence on the utility or function of big game, raptor, or nongame habitats in the vicinity of these sites. Although pads and access associated with the proposed action, in and of themselves, cannot be considered as meeting the definition of the land health standard, the overall shrubland communities comprising this landscape retain sufficient character to support viable populations of resident game and nongame species. Thus, in an overall context, lands affected by the no-action or proposed action would continue to meet the land health standard for terrestrial animals.

OTHER NON-CRITICAL ELEMENTS: For the following elements, only those brought forward for analysis will be addressed further.

Non-Critical Element	NA or Not Present	Applicable or Present, No Impact	Applicable & Present and Brought Forward for Analysis
Access and Transportation			X
Cadastral Survey	X		
Fire Management		X	

Non-Critical Element	NA or Not Present	Applicable or Present, No Impact	Applicable & Present and Brought Forward for Analysis
Forest Management		X	
Geology and Minerals			X
Hydrology/Water Rights			X
Law Enforcement		X	
Paleontology			X
Rangeland Management			X
Realty Authorizations	X		
Recreation			X
Socio-Economics		X	
Visual Resources			X
Wild Horses	X		

ACCESS AND TRANSPORTATION

Affected Environment: Rio Blanco County Roads 68 and 26 are adjacent to proposed pads.

Environmental Consequences of the Proposed Action: An increase of traffic would be expected to occur while these pads are being constructed. Traffic to the pads will be less frequent prior to pad completion. Pads provide no additional public access to public lands.

Environmental Consequences of the No Action Alternative: None.

Mitigation: None.

GEOLOGY AND MINERALS

Affected Environment: Riata's wells are located in the area identified in the RMP as available for oil shale leasing and development. These wells will develop federal oil and gas leases COC-60755, COC- 60757, and COC-60758. The surface geologic formation of the well location is Uinta and Riata's targeted zone is in the lower Mesaverde. During drilling potential water, oil shale, sodium, and gas zones will be encountered from surface to the targeted zone. Aquifers that will be encountered during drilling are; the Perched in the Uinta, the A-groove, B-groove and the Dissolution Surface in the Green River formation. These areas are known for difficulties in drilling and cementing. Oil shale and sodium resources are also found in the Green River formation.

Environmental Consequences of the Proposed Action: Drilling and completion of this well may adversely affect the aquifers and the monitoring wells if there is loss of circulation or problems cementing the casing. However, the approved cementing and completion procedure of the proposed action isolates the formations and will prevent the migration of gas, water, and oil

between formations. Development of these wells will deplete the hydrocarbon resources in the targeted formation. Well locations may prevent an orderly future development of oil shale resources.

Environmental Consequences of the No Action Alternative: The natural gas resources in the targeted zones will not be developed.

Mitigation: None

HYDROLOGY AND WATER RIGHTS

Affected Environment: The table below identifies springs that are located in close proximity to the proposed action. BLM holds reserve water rights on both of the springs.

Springs						
Structure Name	Location to Proposed action	SC	pH	Q in gpm	Date Measured	Drainage
Reagle #3 - 173-01	¼ mile 299-23-2	1535	8.7	0.44	8/25/1983	Stake Springs
Swizer - 173-02	½ mile 399-14-11	1925	7.8	3.11	8/30/1983	Swizer Gulch

Environmental Consequences of the Proposed Action: With proper drilling procedures the fresh water aquifers would be isolated thus protecting the springs from possible degradation.

Environmental Consequences of the No Action Alternative: Impacts are not anticipated from the no-action alternative.

Mitigation: None

PALEONTOLOGY

Affected Environment: Well# 399-14-1, Well# 299-23-2, Well# 299-27-1 and Well# 299-27-2; the proposed actions are located in an area mapped as the Uintah Formation (Tweto 1979) which the BLM has categorized as a Condition I formation meaning it is a known producer of scientifically important fossil resources.

For Well# 299-23-1: The proposed well pad location is located in an area mapped as the Uintah Formation (Tweto 1979) which the BLM has categorized as a Condition I formation meaning it is a known producer of scientifically important fossil resources. The pipeline has not been inventoried.

Environmental Consequences of the Proposed Action: For the proposed action: If at any time it becomes necessary to excavate into the underlying bedrock to level the well pad or construct the reserve/blooie pit there is a potential to impact scientifically important fossil resources.

Environmental Consequences of the No Action Alternative: There would be no new impacts under the No Action Alternative.

Mitigation: All well pads and/or access roads: all exposed rock outcrops shall be inventoried by an approved paleontologist with a report detailing the results of the inventory and any recommended mitigation, if appropriate shall be submitted to the BLM prior the initiation of construction. If at any time it becomes necessary to excavate into the underlying bedrock formation to level the well pad, construct the road, or construct the reserve/blooie pit a paleontological monitor shall be present during all such excavation.

RANGELAND MANAGEMENT

Affected Environment: Location 399-14-1 in Swizer Gulch is located within the Square S allotment (06027). All other locations are within the Reagle allotment. Both of these allotments are permitted for cattle grazing from 5/1- 12/15 on a yearly basis.

Environmental Consequences of the Proposed Action: The proposed action will have no significant impact on rangeland management if the stated mitigation measures are applied.

Environmental Consequences of the No Action Alternative: There will be no change from the present situation.

Mitigation: Promptly recontour and revegetate all disturbed areas using Native Seed Mix #2, substituting needle and thread for green needlegrass in this seed mixture. Eradicate all noxious and invasive species which occur on site using materials and methods approved in advance by the Authorized Officer. The applicant will also water/ apply magnesium chloride to access roads to reduce airborne dust transport and deposition on vegetation.

RECREATION

Affected Environment: The proposed action occurs within the White River Extensive Recreation Management Area (ERMA). BLM custodially manages the ERMA to provide for unstructured recreation activities such as hunting, dispersed camping, hiking, horseback riding, wildlife viewing and off-highway vehicle use.

The project areas areas have been delineated a Recreation Opportunity Spectrum (ROS) class of Semi-Primitive Motorized (SPM). SPM recreation setting is typically characterized by a natural appearing environment with few administrative controls, low interaction between users but evidence of other users may be present. SPM recreation experience is characterized by a high probability of isolation from the sights and sounds of humans that offers an environment that offers challenge and risk.

Environmental Consequences of the Proposed Action: The public will directly lose approximately 10 acres of dispersed recreation potential while wells are in operation. The public will most likely not recreate in the vicinity of these facilities and will be dispersed elsewhere. If action coincides with hunting seasons (September through November) it will most likely disrupt the experience sought by those recreationists.

With the introduction of new well pads and roads, an increase of traffic could be expected increasing the likihood of human interactions, the sights and sounds associated with the human environment and a less naturally appearing environment.

Environmental Consequences of the No Action Alternative: No loss of dispersed recreation potential and no impact to hunting recreationists.

Mitigation: None.

VISUAL RESOURCE

Affected Environment: Proposed wells 299-23-1, 299-23-2 299-27-1, 299-27-2 are within a VRM class III. Proposed well 399-14-1 is within a VRM II area. The objective of class III is to partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate. Management activities may attract attention but should not dominate the view of the casual observer. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape. The objective of class II is of this class is to retain the existing character of the landscape. The level of change to the characteristic landscape should be low. Management activities may be seen, but should not attract the attention of the casual observer. Any changes must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape.

Environmental Consequences of the Proposed Action: Proposed wells 299-23-1, 299-23-2, 299-27-1, 299-27-2 are adjacent to Rio Blanco County Road 68 and will be visible and the pads will create an unnatural shape and color to all of those traveling this route; however, any modifications will not dominate the view of the casual observer therefore VRM III objectives continue to be met. Proposed well 399-14-1 is adjacent to Rio Blanco County Road 26 and can be seen by all those traveling this route. As the pad will differ in color, shape, line and texture of the surrounding area, it does not repeat these basic elements and therefore will likely dominate the view of the casual observer. Class II objectives will not be met.

Environmental Consequences of the No Action Alternative: No impact on visual resources.

Mitigation: For all wells use low profile production facilities. Paint all production facilities Juniper Green except for well # 399-14-1 which needs to be desert tan.

CUMULATIVE IMPACTS SUMMARY: In addition to the approximately 8.26 acres that will be disturbed as a result of the proposed action, an estimated 10 acres will be disturbed for the actions being analyzed in EA-198. Cumulative impacts from oil and gas development were analyzed in the White River Resource Area Proposed Resource Management Plan/Final Environmental Impact Statement (PRMP/FEIS) completed in June 1996. Current development, including the proposed action and the actions in EA-198 has not exceeded the cumulative impacts from the foreseeable development analyzed in the PRMP/FEIS.

REFERENCES CITED:

Conner, Carl E. and Barbara J. Davenport
2004 Class III Cultural Resource Inventory Report for Five Proposed Well Locations and Their Associated Pipeline Routes (8.8 miles) and a Compressor Site in Rio Blanco County, Colorado for Riata Energy, Inc. Grand River Institute, Grand Junction, Colorado.

Tweto, Ogden
1979 Geologic Map of Colorado. Uinted States Geologic Survey, Department of the Interior, Reston, Virginia.

PERSONS / AGENCIES CONSULTED: None

INTERDISCIPLINARY REVIEW:

Name	Title	Area of Responsibility
Caroline Hollowed	P & EC	Air Quality
Tamara Meagley	NRS	Areas of Critical Environmental Concern
Tamara Meagley	NRS	Threatened and Endangered Plant Species
Michael Selle	Archaeologist	Cultural Resources Paleontological Resources
Mark Hafkenschiel	Rangeland Mgt Specialist	Invasive, Non-Native Species
Ed Hollowed	Wildlife Biologist	Migratory Birds
Ed Hollowed	Wildlife Biologist	Threatened, Endangered and Sensitive Animal Species, Wildlife
Marty O'Mara	Petroleum Engineer	Wastes, Hazardous or Solid
Caroline Hollowed	P & EC	Water Quality, Surface and Ground Hydrology and Water Rights
Ed Hollowed	Wildlife Biologist	Wetlands and Riparian Zones
Chris Ham	ORP	Wilderness
Caroline Hollowed	P & EC	Soils
Mark Hafkenschiel	Rangeland Mgt Specialist	Vegetation
Ed Hollowed	Wildlife Biologist	Wildlife Terrestrial and Aquatic
Chris Ham	ORP	Access and Transportation
Ken Holsinger	NRS	Fire Management
Robert Fowler	Forester	Forest Management
Paul Daggett	Mining Engineer	Geology and Minerals
Mark Hafkenschiel	Rangeland Mgt Specialist	Rangeland Management
Linda L Jones	Realty Specialist	Realty Authorizations
Chris Ham	ORP	Recreation
Chris Ham	ORP	Visual Resources
Valerie Dobrich	NRS	Wild Horses

Finding of No Significant Impact/Decision Record (FONSI/DR)

CO-110-2004-164-EA

FINDING OF NO SIGNIFICANT IMPACT (FONSI)/RATIONALE: The environmental assessment and analyzing the environmental effects of the proposed action have been reviewed. The approved mitigation measures (listed below) result in a Finding of No Significant Impact on the human environment. Therefore, an environmental impact statement is not necessary to further analyze the environmental effects of the proposed action.

DECISION/RATIONALE: It is my decision to approve the development of these wells as described in the proposed action with mitigation measures listed below. This development, with mitigation, is consistent with the decisions in the White River ROD/RMP, and environmental impacts will be minimal.

MITIGATION MEASURES:

1. Applicant will spread water on road surfaces to control fugitive dust during construction and continue on an as needed basis for the life of the wells.

2. The operator is responsible for informing all persons who are associated with the project operations that they will be subject to prosecution for knowingly disturbing historic or archaeological sites, or for collecting artifacts. If historic or archaeological materials are uncovered during any project or construction activities, the operator is to immediately stop activities in the immediate area of the find that might further disturb such materials, and immediately contact the authorized officer (AO). Within five working days the AO will inform the operator as to:

- whether the materials appear eligible for the National Register of Historic Places
- the mitigation measures the operator will likely have to undertake before the site can be used (assuming in situ preservation is not necessary)
- a timeframe for the AO to complete an expedited review under 36 CFR 800-11 to confirm, through the State Historic Preservation Officer, that the findings of the AO are correct and that mitigation is appropriate.

If the operator wishes, at any time, to relocate activities to avoid the expense of mitigation and/or the delays associated with this process, the AO will assume responsibility for whatever recordation and stabilization of the exposed materials may be required. Otherwise, the operator will be responsible for mitigation cost. The AO will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the AO that the required mitigation has

been completed, the operator will then be allowed to resume construction.

3. Pursuant to 43 CFR 10.4(g) the holder of this authorization must notify the AO, by telephone, with written confirmation, immediately upon the discovery of human remains, funerary items, sacred objects, or objects of cultural patrimony. Further, pursuant to 43 CFR 10.4(c) and (d), you must stop activities in the vicinity of the discovery and protect it for 30 days or until notified to proceed by the authorized officer.

4. Well 299-23-2 well tie pipeline: the well tie pipeline shall not be constructed until completion of an acceptable archaeological inventory. Upon receipt of an approved report the applicant shall be given written notice to proceed with the well tie construction.

5. Eradicate all noxious and invasive species which occur on site using materials and methods approved in advance by the Authorized Officer.

6. For well #299-27.1, interim reclamation would be used such that all available topsoil material would be used to recontour cut and fill slopes (maintaining the viability of the soils for final reclamation) and all disturbed areas would be seeded. Production facilities would be located to maximize the extent of surface disturbance available for effective reclamation over the productive life of the well.

7. For well #299-27.1; locate production facilities to maximize the extent of surface disturbance available for effective reclamation over the productive life of the well.

8. The operator shall be required to collect and properly dispose of any solid wastes generated by this project.

9. Oil and Gas operations are considered to be a light industrial activity by the Colorado Department of Public Health and Environment. As an industrial discharger, the applicant is required to obtain a permit authorizing the discharge of stormwater from these sites. The permit requires development of a stormwater management plan showing how BMPs would be used to control runoff and sediment transport.

10. When preparing the site, all suitable topsoil should be stripped from the surface of the location and stockpiled for reclamation for use, once the drilling is completed.

11. All sediment control structures or disposal pits will be designed to contain a 100-year, 6-hour storm event. Storage volumes within these structures will have a design life of 25 years.

12. All activity shall cease when soils or road surfaces become saturated to a depth of three inches unless otherwise approved by the Authorized Officer.

13. Provide vegetation or artificial stabilization of cut and fill slopes in the design process. Avoid establishment of vegetation where it inhibits drainage from the road surface or where it restricts safety or maintenance.

14. Eliminate undesirable berms that retard normal surface runoff.

15. For Well # 399-14-1, BLM would prefer to have a low water crossing. If Riata chooses to place a culvert in the access road the following mitigation will apply:

- Culverts will be designed and constructed according to the standards provided in BLM Manual 9112. The design, review and evaluation must be accomplished under the direct supervision of a registered professional engineer.

- Approaches to the culvert will be stabilized with fabric /gravel/water bars as needed to reduce erosion.

16. Promptly recontour and revegetate all disturbed areas using Native Seed Mix #2 from the White River ROD/RMP Table B-2 with the recommended seed substitution as stated in the table below.

Table B-2 Native Seed Mix		
Native seed Mix #2	Western wheatgrass (Rosanna) Indian ricegrass (Nezpar) Bluebunch wheatgrass (Whitmar) Thickspike wheatgrass (Critana) Needle and thread (*Stipa comata)* Globemallow	2 1 2 2 1 0.5

17. Water bars or dikes shall be constructed on all of the rights-of-way, and across the full width of the disturbed area, as directed by the authorized officer.

18. Slopes within the disturbed area shall be stabilized by non-vegetative practices designed to hold the soil in place and minimize erosion. Vegetative cover shall be reestablished to increase infiltration and provide additional protection from erosion.

19. When erosion is anticipated, sediment barriers shall be constructed to slow runoff, allow deposition of sediment, and prevent it from leaving the site. In addition, straining or filtration mechanisms may also contribute to sediment removal from runoff

20. All disturbed areas including the cut and fill slopes not necessary for production will be promptly recontoured and revegetated using the recommended seed mix in the Vegetation section below.

21. Revegetation shall include all cut and fill slopes associated with access road and pad construction. Eradicate all noxious and invasive species which occur on site using materials and methods approved in advance by the Authorized Officer. The applicant will also water/ apply magnesium chloride to access roads to reduce airborne dust transport and deposition on vegetation.

22. The 299-23-1 pad was originally sited in the center of a sagebrush basin and subsequently moved during the on-site inspection to the margin of the park (into pinyon-juniper regeneration). Similarly, the 299-27-1 location was moved from the interior of the Ryan Ridge burn to a location adjacent to the county road. Both moves situated well pads and drilling activity into a pre-existing disturbance corridor, helping to consolidate disruptive influences, minimize long term surface occupation, and maintain the integrity of larger blocks of contiguous sagebrush habitats.

23. All well pads and/or access roads: all exposed rock outcrops shall be inventoried by an approved paleontologist with a report detailing the results of the inventory and any recommended mitigation, if appropriate shall be submitted to the BLM prior the initiation of construction. If at any time it becomes necessary to excavate into the underlying bedrock formation to level the well pad, construct the road, or construct the reserve/blooie pit a paleontological monitor shall be present during all such excavation.

24. For all of the wells use low profile production facilities. Paint all production facilities Juniper Green except for well # 399-14-1 which needs to be desert tan.

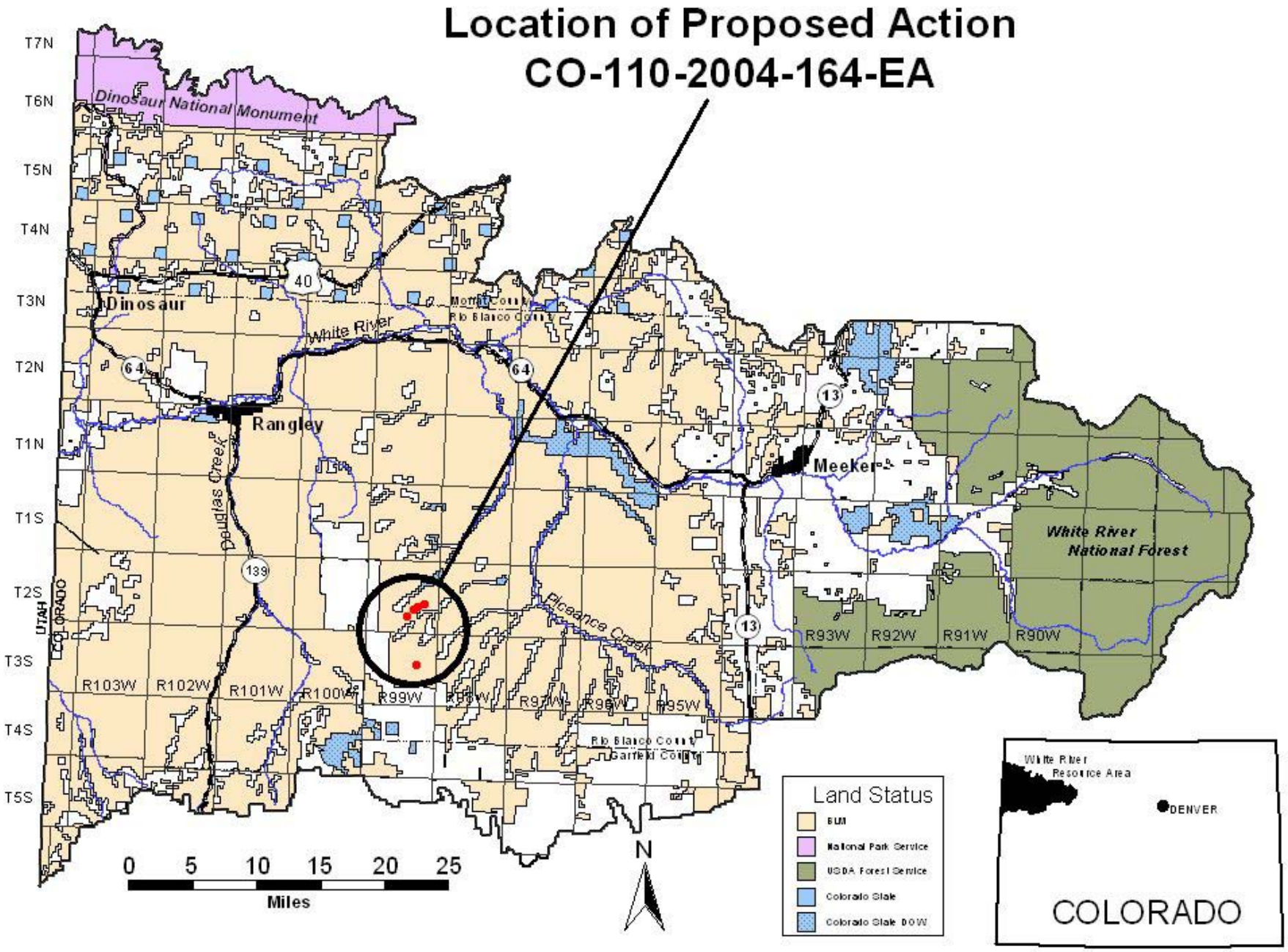
NAME OF PREPARER: Tamara Meagley

NAME OF ENVIRONMENTAL COORDINATOR: Caroline P. Hollowed 10/19/04

SIGNATURE OF AUTHORIZED OFFICIAL: Kent E. Walter
Field Manager

DATE SIGNED: 10/20/04

ATTACHMENTS: Location map of the proposed action.


Location of Proposed Action
CO-110-2004-164-EA
T7N
T6N
T5N
T4N
T3N
T2N
T1N
T1S
T2S
T3S
T4S
T5S
Dinosaur National Monument
Dinosaur
Rangley
Meeker
White River
Douglas Creek
Piceance Creek
White River National Forest
UTAH
COLORADO
40
64
13
139
R103W
R102W
R101W
R100W
R99W
R93W
R92W
R91W
R90W
Moffat County
Rio Blanco County
Garfield County
0 5 10 15 20 25
Miles
N
Land Status
BLM
National Park Service
USDA Forest Service
Colorado State
Colorado State DOW
White River Resource Area
DENVER
COLORADO